



**Eric Langley**  
2700 U.S. Highway 280  
Suite 240E  
Birmingham, AL 35223  
205-783-5750  
[eric@langleybromberg.com](mailto:eric@langleybromberg.com)

November 10, 2017

Marlene Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street S.W.  
Washington, D.C. 20554

**Re: Ex Parte Notice**  
**WC Docket No. 17-84**

Dear Ms. Dortch:

On November 8, 2017, Pam Ellis (Utility Business Development Senior Manager, AEP), Tom St. Pierre (Associate General Counsel, AEP), Natalie Beasman (Senior Counsel, Georgia Power) and I met separately with Jay Schwarz (Chairman Pai's Wireline Advisor) and Amy Bender (Commissioner O'Rielly's Legal Advisor, Wireline) in connection with the above-referenced docket.

**Meeting with Jay Schwarz**

During the meeting with Mr. Schwarz, we discussed the need to restore incentives to the providers of pole space. We explained that the existing regulatory framework, and the constant downward pressure on cost-recovery (to say nothing of diminished return on investment) has stifled innovation of deployment solutions. To the extent there are problems with the current state of deployment, these are not problems that more of the same type of regulations will fix.

We specifically discussed two types of innovative deployment solutions that have developed outside the constraints of pole attachment regulation: (1) high-volume wireline deployment solutions for broadband internet access service providers (before the net neutrality order converted these providers to "telecommunications carriers" for purposes of section 224), and (2) collocation solutions for small cells on streetlights and other outdoor lighting assets. We also explained that joint use agreements between electric utilities and ILECs were the original innovative deployment solutions, which facilitated ubiquitous deployment of communications services without pole attachment regulation.

We explained that, while parties are technically free to negotiate "outside the box" deals to streamline broadband deployment, the Commission's current "sign and sue" policy creates reluctance, if not disinterest, on the part of electric utilities to do so.

We further explained that the Commission's proposed revision to Rule 1.1409(c) (set forth in the NPRM and in the draft order on the agenda for Thursday, November 16) merely reflects the long-standing regulatory accounting practice of crediting make-ready reimbursements to the appropriate FERC accounts. To this extent, the proposed revision to Rule 1.1409(c) is non-controversial (even if completely unnecessary). We expressed concern, though, with the Commission's inquiries into possible further reductions in the existing pole attachment rate formulas—specifically the Commission's inquiries into removing the capital cost elements (taxes, depreciation and rate of return) from the carrying charge. These inquiries are going in the wrong direction because they discourage, rather than incentivize, investment and innovation. Moreover, these inquiries are at odds with any kind of “light touch” regulatory approach.

During the meeting, we also provided to Mr. Schwarz copies of the two enclosed declarations. Both of these declarations were submitted by the Edison Electric Institute in WC Docket 07-245 and both declarations explain the economic waste and distorting effects of arbitrary or “cost-causation based” reductions in pole attachment rates.

### **Meeting with Amy Bender**

During the meeting with Ms. Bender, we briefly reviewed the substance of our September 13, 2017 meeting relating to the Commission's proposed revisions to Rule 1.1424 (affecting joint use agreements between ILECs and electric utilities). Most of the meeting, though, focused on the Commission's proposed revisions to, and inquiries around, the existing pole attachment rate formulas. We explained that the Commission's proposed revision to Rule 1.1409(c) (set forth in NPRM and in the draft order on the agenda for Thursday, November 16) is non-controversial insofar as it merely reflects the long-standing regulatory accounting practice of crediting make-ready reimbursements to the appropriate FERC accounts. We expressed concern, though, with the Commission's inquiries into possible further reductions in the existing pole attachment rate formulas—specifically the Commission's inquiries into removing the capital cost elements (taxes, depreciation and rate of return) from the carrying charge.

We explained that the existing rate formulas already yield prices that are inefficiently low, and that further reductions will do nothing to promote broadband deployment. We reiterated, as all commenters seem to acknowledge, that the timing and predictability of infrastructure access (and the front-end costs associated with access), are the real keys to broadband deployment, and that the Commission's policies should incentivize, rather than discourage, capital investment in infrastructure and innovative make-ready solutions from the providers of pole space. We explained that, while parties are technically free to negotiate “outside the box” deals to streamline broadband deployment, the Commission's current “sign and sue” policy creates reluctance, if not disinterest, on the part of electric utilities to do so.

The positions and data we discussed were consistent with the positions and data set forth the initial comments (at pp. 50-56) and reply comments (at pp. 36-37) filed by AEP and Southern Company (along with Ameren, Duke Energy, Entergy, Oncor Electric and Tampa Electric) in this proceeding.

We also briefly addressed the overlashing issue raised in the draft FNPRM on the agenda for Thursday, November 16. We explained that overlashing—like any other physical burden on a pole line—has always been subject to the same safety, reliability, engineering and capacity constraints set forth in section 224(f)(2), and that the only way an electric utility can exercise its section 224(f)(2) rights is through reasonable advance notice of overlashing.

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This ex parte notification is being filed electronically in the above-referenced docket pursuant to section 1.1206(b) of the Commission's rules. Please let me know if you have any questions.

Very Truly Yours,

*/s/Eric B. Langley*

Eric B. Langley

EBL/lk

cc: VIA EMAIL  
Mr. Jay Schwarz (jay.schwarz@fcc.gov)  
Ms. Amy Bender (amy.bender@fcc.gov)

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Implementation of Section 224 of the	)	WC Docket No. 07-245
Act;	)	
	)	
A National Broadband Plan for Our	)	GN Docket No. 09-51
Future	)	

To: The Commission

**DECLARATION OF  
JONATHAN ORSZAG AND ALLAN SHAMPINE**

Dated: October 4, 2010

## **I. INTRODUCTION**

### **A. Qualifications**

#### ***Jonathan Orszag***

1. I am a Senior Managing Director and member of the Executive Committee of Compass Lexecon, an economic consulting firm. I am a Fellow at the University of Southern California's Center for Communication Law & Policy and a Senior Fellow at the Center for American Progress. I received a M.Sc. from Oxford University, which I attended as a Marshall Scholar. I graduated *summa cum laude* in economics from Princeton University. Previously, I served as the Assistant to the U.S. Secretary of Commerce and Director of the Office of Policy and Strategic Planning and as an Economic Policy Advisor on President Clinton's National Economic Council. For my work at the White House, I was presented the Corporation for Enterprise Development's 1999 leadership award for "forging innovative public policies to expand economic opportunity in America." I have provided testimony to administrative agencies, the U.S. Congress, U.S. courts, the European Court of First Instance, and other domestic and foreign regulatory bodies on a range of issues, including competition policy, industry structure, and fiscal policy. I have analyzed and provided economic testimony on a wide variety of telecommunications issues both as part of the government and in the private sector.

2. A copy of my curriculum vita is attached as Exhibit 1 to this declaration.

#### ***Allan Shampine***

3. I am a Vice-President of Compass Lexecon. I received a B.S. in Economics and Systems Analysis from Southern Methodist University, *summa cum laude*, and an M.A. and Ph.D. from the University of Chicago. I have been with Compass Lexecon since 1996. I specialize in applied microeconomic analysis and the economics of telecommunications and payment systems. I am editor of the book Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies. I have published a variety of articles on telecommunications and network industries in professional economics and legal journals, have provided economic testimony for the Federal Communications Commission (“FCC”), state commissions and the European Commission, and have spoken on telecommunications and network industries in a variety of forums.

4. A copy of my curriculum vita is attached as Exhibit 2 to this declaration.

#### **B. Overview**

5. We have been asked by counsel for the Edison Electric Institute to evaluate and discuss the economic implications of the FCC’s proposed pole attachment rules. We understand that the framework for the analysis is set forth in Section 224 of the Communications Act. (Appendix 1 includes the text of that section.)

6. In this Declaration, we analyze the economics of the various proposals in light of the statute. In Part II, we explain how the methodologies proposed by the FCC and certain other commenters are inconsistent with the Act and with economic theory. In Part III, we explain how the FCC’s proposal is likely to be, at best, an inefficient and distortionary means of promoting broadband deployment, and may even discourage broadband deployment.

## **II. THE PROPOSED METHODOLOGIES ARE INCONSISTENT WITH ECONOMIC THEORY AND THE ACT.**

7. The FCC claims that it has discretion to determine how the telecom and cable rate formulae are implemented and proposes to set the cable and telecom rates at the same level in order to achieve rates “as low and close to uniform as possible.”<sup>1</sup> However, as explained below, the FCC’s rationale for such “low” and “uniform” rates is misplaced. Furthermore, the FCC justifies its rate reduction proposal by focusing on a “cost causation” approach to rates and by suggesting that pole attachment considerations do not affect utility pole deployment decisions or utility capital costs.<sup>2</sup> A limited focus only on “cost causation” is inconsistent with the provisions of the Act and with economic principles for maximizing social welfare, with the FCC failing to address the effects of its proposal on utility customers or the owners of other broadband infrastructure.

8. The FCC assumes that setting “uniform” rates can enhance economic efficiency<sup>3</sup> – and we agree with that proposition. If competitors are purchasing the same input, a uniform rate for that input will allow the competitors to compete with one another strictly on their own merits.<sup>4</sup> However, the FCC’s proposal does not appear to be necessary to achieve such

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1. FCC, Order and Further Notice of Proposed Rulemaking in the Matter of Implementation of Section 224 of the Act, A National Broadband Plan for our Future, FCC 10-84, May 20, 2010 (“May 2010 FNPRM”), ¶ 129. See also May 2010 FNPRM, ¶ 118 (“Instead, by seeking to limit the distortions present in the current pole rental rates by reinterpreting the telecom rate to a lower level consistent with the Act, we expect to increase the availability of, and competition for, advanced services to anchor institutions and as middle-mile inputs to wireless services and other broadband services.”).

2. May 2010 FNPRM, ¶¶ 136-137.

3. May 2010 FNPRM, ¶ 115.

4. See, for example, William Baumol, Janusz Ordover and Robert Willig, 14 Yale Journal on Regulation 145 (1997), at 148.

uniformity of pole attachment rates between competitors, and the proposal may in fact move farther away from uniformity.

9. The Act already provides for uniform pole attachment rental rates for non-incumbent local exchange carrier (“ILEC”) competitors by specifying that providers of competing telecommunications services all receive the same rate (except for ILECs), and providers of competing cable television services all receive the same rate (i.e., “the rate for any pole attachment used by a cable television system solely to provide cable service”). The FCC suggests that uncertainty as to the classification of services may be deterring investment.<sup>5</sup> As discussed in the next section, this claim appears to be inconsistent with the FCC’s data indicating widespread cable modem deployment and significant, ongoing broadband capital investment by cable companies. Even if true, however, the problem appears to stem from defining competing services as different services. A detailed discussion of those definitions is beyond the scope of this proceeding. However, the general problem may be summarized as follows: if telephone service provided by a cable company were defined as “cable service,” while telephone service provided by a CLEC were defined as a “telecommunications service,” then two competitors would be paying different input prices. However, such a problem could be remedied by appropriate classifications of such competing services. Non-ILEC and cable system telecommunications competitors would then be on a level playing field with respect to this input.

10. Moreover, since the joint use agreements between ILECs and utilities are not covered by the statute, lowering rates for non-ILEC and cable system attachments for

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5. May 2010 FNPRM, ¶ 115.



telecommunications services which compete with the ILECs may move farther from uniformity rather than producing the level playing field espoused by the FCC.<sup>6</sup> This uncertainty illustrates why the FCC's pursuit of "low" pole attachment rental rates for selected firms is arbitrary and not related to economic efficiency.

11. There are other reasons why lowering the rate charged will not necessarily be efficient and may ultimately harm consumer welfare. As we discuss below, lowering pole attachment rental rates is likely to have little effect on broadband deployment. Furthermore, lowering the regulated rate may decrease economic efficiency in at least two ways: (1) by decreasing incentives for some firms to invest in access infrastructure, and (2) by increasing economic distortions in the subsidizing sector (i.e., utility customers).

12. With respect to the subsidization of non-ILEC and cable communications providers by utility customers, both the Act and economic theory indicate that the effects on utility consumers should be considered. The Act requires that states which regulate pole attachment rental rates must consider not just "the interests of the subscribers of the services offered via such attachments," but also the "interests of the consumers of the utility services."<sup>7</sup> The FCC, however, appears to assume that consumers of the utility services are only providing a

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6. This problem is also noted in T. Randolph Beard, George Ford and Lawrence Spiwak, "The Pricing of Pole Attachments: Implications and Recommendations," 9 Review of Network Economics (2010), p. 16 ("Currently, the ILECs do not pay the regulated telecommunications rate for pole attachments, but are instead required to negotiate fees with other utilities. ... Absent such activity, the impact of attachment rate changes will be (largely) limited to cable companies and, consequently, may fail to resolve the efficiency problem of non-uniform prices for broadband firms.")

7. 47 U.S.C. §224(c)(2)(B).

subsidy if the utility cannot recover the short-run marginal costs of additional pole attachments.<sup>8</sup>

As we explain in the next section, that is not the case.

13. A more economically relevant way to think of the issue is that providing service to rural customers using poles is expensive – there are large fixed costs for installation of poles and large ongoing costs for carrying those poles. Today, ILECs and utilities already share those costs under private contracts. If multiple firms are using those poles to provide service, is it economically appropriate for some users to bear none of those costs? The FCC does not address this question in its FNPRM.<sup>9</sup> However, given the fact that the FCC’s proposed subsidy will likely have, at best, modest effects on broadband deployment, the costs of that subsidy to utility customers are particularly relevant and should be considered as part of an analysis of the efficacy of the FCC’s proposed approach.

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8. May 2010 FNPRM, ¶ 126.

9. Beard et al. address this question in their September 2010 article by applying a Ramsey pricing framework. However, they do not account for dynamic effects such as the importance of joint use agreements in making attachment space available.

### **III. THE FCC’S PROPOSAL FOR PROMOTING BROADBAND DEPLOYMENT IS LIKELY TO BE INEFFICIENT, DISTORTIONARY AND COUNTERPRODUCTIVE.**

14. The FCC’s stated goal for this proceeding is to promote broadband deployment.<sup>10</sup>

Even if we limit the discussion strictly to broadband deployment, it is unlikely that setting pole rental rates “as low and close to uniform as possible”<sup>11</sup> is the most efficient or least disruptive means to achieve the FCC’s stated goal of increasing broadband deployment. Our economic analysis indicates that the FCC’s proposal is likely to be inefficient, distortionary, and counterproductive.

#### **A. Untargeted subsidies such as the FCC’s proposal are economically wasteful.**

15. An “untargeted” subsidy is one which is given to parties regardless of whether it affects their behavior. In this case, the FCC’s goal is apparently to reduce the cost of new pole attachments for broadband service providers, but its proposed approach will reduce rates for existing pole attachments as well, whether or not those attachments are used for broadband services. It has long been recognized that such transfers are economically wasteful. For example, Ross Eriksson, David Kaserman and John Mayo have noted that such an untargeted subsidy “means that some individuals who do not ‘need’ the subsidy to achieve the desired

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10. May 2010 FNPRM, ¶ 1.

11. May 2010 FNPRM, ¶ 129. See also May 2010 FNPRM, ¶ 118 (“Instead, by seeking to limit the distortions present in the current pole rental rates by reinterpreting the telecom rate to a lower level consistent with the Act, we expect to increase the availability of, and competition for, advanced services to anchor institutions and as middle-mile inputs to wireless services and other broadband services.”).

policy goal are unnecessary recipients. From a policy perspective this is pure waste because the explicit or implicit expenditure on the untargeted individual fails to promote the desired end.”<sup>12</sup>

16. Previous untargeted, implicit telecommunications subsidies have been criticized in the economics literature and the federal government has moved away from them in recent years.<sup>13</sup> For example, the 1996 Telecommunications Act specifically required that universal service support change from implicit subsidies to explicit, targeted subsidies.<sup>14</sup> Similarly, there is a bill pending in Congress which we understand would place broadband under the universal service requirements, thereby requiring subsidies for broadband to be explicit and targeted.<sup>15</sup> The National Cable and Telecommunications Association (“NCTA”) has endorsed this bill and applauded the focusing of federal support efforts.<sup>16</sup> Such explicit, targeted subsidies are likely to be both more efficient and more effective at achieving the FCC’s stated goal of encouraging broadband deployment.

17. Furthermore, subsidies do not come from thin air. Someone must pay for them. Here, the subsidy comes from pole owners – and therefore, ultimately, from their customers and shareholders. Indeed, we understand that the rate making process ensures that there will be real

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12. Ross Eriksson, David Kaserman and John Mayo, “Targeted and Untargeted Subsidy Schemes: Evidence from Postdivestiture Efforts to Promote Universal Telephone Service,” 41 *Journal of Law and Economics* 1998 (“Eriksson, Kaserman and Mayo”), p. 478.
  13. See, for example, Robert Crandall and Leonard Waverman, Who Pays for Universal Service? When Telephone Subsidies Become Transparent, Brookings Institution Press (Washington, D.C.), 2000.
  14. 1996 Telecommunications Act, § 254 (“UNIVERSAL SERVICE SUPPORT- After the date on which Commission regulations implementing this section take effect, only an eligible telecommunications carrier designated under section 214(e) shall be eligible to receive specific Federal universal service support. A carrier that receives such support shall use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended. Any such support should be explicit and sufficient to achieve the purposes of this section.”).
  15. H.R. 5828, introduced by Rep. Rick Boucher, July 2010.
  16. <http://www.ncta.com/ReleaseType/Statement/McSIlarrow-Statement-Endorsing-the-Universal-Service-Reform-Act-of-2010.aspx>

economic effects on utility investment and customers, since utilities facing lower revenues would be required to make up that loss by some combination of raising other rates and lowering expenditures. Increasing the size of the transfer increases the economic distortions in the subsidizing sector.<sup>17</sup> As we discuss next, the FCC does not address whether it is appropriate or efficient to fund this subsidy in this way.

**B. The FCC’s proposed approach will result in pole owner customers subsidizing other broadband service providers.**

18. The FCC cites claims that the expense of pole attachments can discourage the provision of broadband service in rural areas. For example, the FCC cites the need of rural telecommunications providers for 30 poles to provide broadband service to 10 rural households.<sup>18</sup> However, the FCC does not address the fact that broadband service providers are taking advantage of expensive infrastructure. Taking into account the expense of serving rural areas does not represent a market failure – rather, it is inherently expensive to serve rural households. The pole owner has had to install 30 poles to serve the same 10 rural households. The relevant economic question is *either* (a) how the joint and common costs of serving those households (i.e., the cost of the 30 poles) should be paid for or (b) if the government wants to promote broadband deployment in rural areas, how should the government subsidize such deployment more directly.

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17. See, for example, Eriksson, Kaserman and Mayo, p. 478 (“Second, because failure to target the subsidy increases the amount of funds required to obtain a given effect, it also magnifies the economic distortions created in the sector generating these funds.”).

18. May 2010 FNPRM, note 311.

19. The fact that service providers choose not to offer service in some particularly expensive areas is also not necessarily a market failure but may well be an efficient recognition that it is costly to serve rural areas. Attempts to shift those costs from broadband service providers to pole owners should consider the effects of such cross-subsidies. In particular, a cross-subsidy of this type can be expected to raise the price of electricity to consumers and/or to result in less investment by some utilities, potentially leaving consumers worse off.<sup>19</sup> It may also introduce competitive distortions by allowing CLECs and cable companies to free ride on the pole owners' investments in taller poles. Dr. Pelcovits dismisses the importance of this subsidy by arguing that "prior to the licensee attaching to the pole, the pole owner had to recover the entire costs of the pole from its own retail customers."<sup>20</sup> If there are no attachments, then, by definition, the pole owner has to recover the costs of the pole from its own retail customers. However, there are attachments, and Dr. Pelcovits does not explain why it is appropriate or efficient for pole owners to subsidize broadband service providers by bearing all of those costs.

20. Much of the proposed transfer will go to subsidize existing attachments rather than new attachments. Those transfers will make utilities, and likely their customers, worse off without increasing broadband deployment. As we discuss next, the net effect of the FCC's

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19. The September 2010 paper by Beard, et al. argues that the elasticity of electricity customers is low compared to the elasticity for broadband services. While a complete review of this paper is beyond the scope of this Declaration, we do note that the elasticity estimates for broadband, which include a citation to an article co-authored by one of us, appear to be too high, and that the elasticity estimates for electricity may be too low. Furthermore, the reported elasticities are for end-user services while the appropriate elasticities for this purpose are those for the attachments themselves, which Beard et al. note are almost certainly inelastic. See T. Randolph Beard, George Ford and Lawrence Spiwak, "The Pricing of Pole Attachments: Implications and Recommendations," 9 Review of Network Economics (2010).

20. Declaration of Dr. Michael D. Pelcovits, in the Matter of Implementation of Section 224 of the Act; Amendment of the Commission's Rules and Policies Governing Pole Attachments, March 7, 2008 ("Pelcovits Declaration"), ¶ 10.

proposal on broadband deployment is likely to be modest at best, and counterproductive at worst. On balance, many consumers may well be made worse off by the FCC's proposal by being taxed through their utilities.<sup>21</sup>

**C. Potential effects on broadband deployment and adoption are likely to be small and may be negative.**

**1. The FCC's proposal is unlikely to significantly increase broadband deployment.**

21. As noted above, one of the difficulties with an untargeted subsidy is that much of the subsidy is wasted on untargeted individuals that do not contribute to the desired goal. Here, the FCC's stated concerns focus heavily on rural areas without broadband networks, but, in fact, most such areas would not be covered by the FCC's proposal.

22. The FCC's "Internet Access Services: Status as of June 30, 2009" report indicates that 99 percent of census tracts have at least one provider of Internet access services of at least 200 kb/s.<sup>22</sup> Where cable TV service is available, 96 percent of homes passed also have access to cable modem service, and where ILECs provide telephone service, 85 percent of homes passed also have access to DSL.<sup>23</sup> That is, most areas already have access to broadband service. We understand that the FCC's proposal will only cover about 37 percent of poles nationally and the great majority of these poles are in areas already served by broadband providers.<sup>24</sup> In addition, poles in rural areas are likely to be disproportionately owned by municipally or cooperatively-

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21. See, for example, A. Barnett and David Kaserman, "The Simple Welfare Economics of Network Externalities and the Uneasy Case for Subscriber Subsidies," 13 *Journal of Regulatory Economics* 1998, p. 253 ("[T]he empirical realities of telecommunications markets make it unlikely that subscriber subsidies of any kind will increase social welfare.").

22. FCC, "Internet Access Services: Status as of June 30, 2009," Table 13.

23. FCC, "Internet Access Services: Status as of June 30, 2009," Table 19.

24. Comments of the Edison Electric Institute and the Utilities Telecom Council, August 16, 2010, pp. 11-12.

owned utilities that are not subject to the FCC's proposal.<sup>25</sup> As a result, a relatively small fraction of the 37 percent of poles covered by the FCC proposal are likely in areas lacking broadband. Even if poles were evenly distributed, if 5 percent of poles were in areas arguably lacking in broadband service, that would imply that the FCC's proposal would have a potential effect on deployment for only about 1.9 percent of poles nationally. Put another way, most of the poles that the FCC has expressed concerns about are not covered by its proposal, and the vast majority of the poles that are covered are in areas that already have broadband service. Thus, the primary effect of the FCC's proposal would be to benefit existing broadband networks and telecommunications services providers and not to encourage significant new deployment.<sup>26</sup>

23. Another reason why the FCC's proposal is unlikely to significantly increase broadband deployment is that pole rental costs appear to be relatively modest when compared to other network costs. For example, we understand that one of the primary barriers to deploying broadband networks in rural areas is the fact that there are substantial fixed costs for hardware and system components, which we understand are large relative to pole costs, and relatively few customers available to recover those costs from. A recent paper by T. Randolph Beard, George Ford and Lawrence Spiwak estimated the importance of pole attachment costs, finding that pole attachment costs represent only about one percent of costs for cable companies, and that, "[g]iven this small fraction of costs, the derived demand for pole attachments is almost surely

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25. Comments of the Edison Electric Institute and the Utilities Telecom Council, August 16, 2010, p. 12.

26. Historically, Kaserman, Mayo and Flynn found that the untargeted subsidies in the carrier common line rate did not have any significant effect on telephone subscribership. The FCC has not demonstrated any reason to believe that the current proposed subsidy would be any more effective. David Kaserman, John Mayo and Joseph Flynn, "Cross-Subsidization in Telecommunications: Beyond the Universal Service Fairy Tale," 2 *Journal of Regulatory Economics* 1990, 231-249.



inelastic for all attaching firms.”<sup>27</sup> The problem is exacerbated by the fact that broadband subscription rates, while rising, have not been as high as desired even in areas with multiple broadband networks, further limiting the number of customers available to cover the fixed costs for electronics. Surveys suggest that the lack of penetration is due to a number of different factors, including the lack of computer equipment, lack of computer literacy and lack of interest – factors that are unrelated to the availability or price of broadband service and that would be unaffected by pole attachment rental rates.<sup>28</sup> In other words, for all of these reasons, decreasing the cost of pole attachments is unlikely to have a significant effect on the number of pole attachments.

24. Together, these facts suggest that the FCC’s proposal will have little effect on broadband deployment. Reducing the price of pole attachments for 37 percent of the poles in the country, located primarily in areas that are already served by broadband providers, is a circuitous and untargeted approach that is likely to benefit primarily existing pole attachment owners rather than inducing new deployment.

## **2. The FCC’s proposal may distort investment.**

25. Encouraging use of poles as an input relative to other possible inputs, such as wireless or satellite connections, will not necessarily enhance economic efficiency. A policy of

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27. T. Randolph Beard, George Ford and Lawrence Spiwak, “The Pricing of Pole Attachments: Implications and Recommendations,” 9 Review of Network Economics (2010), p. 13.

28. See, for example, John Horrigan, “Home Broadband Adoption 2009,” Pew Internet & American Life Project, June 2009. See also Crandall and Waverman, p. 168 (“[T]elecommunications costs are often only a small part of many new information services. ... [S]ubsidizing the telecommunications link that delivers them may be rather ineffective because the major barriers to the ubiquity of such services are computer ownership and computer literacy. Reducing the price of the telecommunications link to the computer might simply confer rents on those already using the service, who are largely high-income individuals, without increasing the diffusion of such services.”).

arbitrarily lowering the prices of some inputs will generally be expected to distort the evolution of an industry, particularly when those inputs are not used in the same proportions or ways by competing technologies. It may also discourage development of competing inputs such as wireless connections. Historically, government attempts to subsidize particular technologies have often been counterproductive, slowing the deployment of competing technologies that ultimately supplanted the favored technology.<sup>29</sup>

**3. Dr. Pelcovits overstates the effects of pole attachment rental rate changes on broadband deployment.**

26. Dr. Pelcovits claims that an increase in pole attachment rental rates “would have a substantial and harmful effect on the industry and consumers,” and, by implication, a decrease would offer substantial benefits to the industry and consumers.<sup>30</sup> However, Dr. Pelcovits’ data contradict his claim.

27. Dr. Pelcovits believes current pole attachment rental rates are already well in excess of marginal cost, but that “they do not appear to have deterred entry into the market or reduced the level of competition in multichannel video distribution markets.”<sup>31</sup> Also, he states that pole attachment rental rates have increased significantly. For example, he estimates that utility pole attachment rental rates in Georgia increased by 42 percent between 1999 and 2002,

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29. For example, France promoted the Minitel network for years after the introduction of the Internet, inhibiting the spread of the Internet in France. For discussion of this and other examples, see Carl Shapiro and Hal Varian, “The Art of Standards Wars,” 41 California Management Review 2 (1999), 8-32, at 21. See also T. Randolph Beard, George Ford and Lawrence Spiwak, “The Pricing of Pole Attachments: Implications and Recommendations,” 9 Review of Network Economics (2010), p. 16 (“An important ancillary consequence ... is the promotion of ‘competitive parity,’ where that term is taken to mean that regulation should not arbitrarily advantage one mode of competitive entry or expansion over another. In general, regulators are not very efficient in predicting the future course of industrial development.”).

30. Pelcovits Declaration, ¶ 12.

31. Pelcovits Declaration, ¶ 11.

and in Florida by 39 percent between 1999 and 2007. Overall, he estimates that utility pole attachment rental rates increased by 25 percent nationwide.<sup>32</sup> Despite these claimed increases, he does not suggest, and the FCC's own research does not indicate, that there has been any significant decline in broadband deployment.<sup>33</sup> Taking Florida as an example, by 2007, 97 percent of residences with cable TV access also had cable modem access, despite what Dr. Pelcovits claims were high and increasing rental rates for pole attachments.<sup>34</sup> The Atkinson & Schultz study prepared for the FCC similarly reports that wireline broadband service is expected to be available to 95 percent of U.S. homes by 2013-14, with 90 percent of homes being offered advertised speeds of 50 mbps. Furthermore, wireless broadband is expected to be available to 94 percent of the population by 2013.<sup>35</sup>

28. Finally, Dr. Pelcovits' suggestion that higher pole attachment rental rates might "drive the cable companies out of the broadband access line of business" is not credible.<sup>36</sup> As noted above, cable companies have high levels of cable modem deployment despite what Dr. Pelcovits claims are high and increasing rates. This is likely because the fees are modest compared to other expenses in deploying and operating a broadband network. Dr. Pelcovits estimates that if all cable company pole attachments were reclassified as telecommunications attachments then all cable companies combined would pay an additional \$208 to \$672 million

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32. Pelcovits Declaration, Table 1.

33. See, generally, Robert Atkinson and Ivy Schultz, "Broadband in America," November 11, 2009. See also FCC, "High-Speed Services for Internet Access: Status as of December 31, 2008," February 2010.

34. FCC, "High-Speed Services for Internet Access: Status as of December 31, 2008," February 2010, Table 19.

35. Atkinson & Schultz, p. 7.

36. Pelcovits Declaration, ¶ 30.

per year (depending on the assumptions about pole configuration).<sup>37</sup> (The amount applying to any individual cable company would be, of course, some fraction of that total.) These figures are substantially higher than other estimates cited by the FCC for the same change, but, in any case, the amounts are modest relative to cable industry investments and expenses. For example, Comcast and Time Warner each have operating expenses of roughly \$15 billion per year.<sup>38</sup> Similarly, a study commissioned by the FCC has estimated that cable companies will spend roughly \$120 billion on capital expenditures between 2008 and 2015.<sup>39</sup> Dr. Pelcovits' figures are also higher than those presented in the recent Beard et al. paper, which concluded that pole attachment costs were so small a portion of total costs for cable companies that demand for pole attachments was "almost surely inelastic."<sup>40</sup>

#### **IV. CONCLUSION**

29. Overall, the FCC's focus on "low" rates rather than "uniform" rates appears to be misplaced. The Act already provides for uniform rates for competitors, and the FCC's proposal may actually make rates less uniform. Furthermore, the reductions contemplated by the FCC will likely not have any significant effect on broadband deployment because they will mostly affect areas and providers that already have broadband. However, the FCC's proposal will likely result in a significant subsidy being paid by utility customers, with that subsidy largely going to

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37. Pelcovits Declaration, Table 3, ¶ 22.

38. Comcast 2Q 2010 Results. Time Warner Cable 2Q 2010 Results.

39. Atkinson and Schultz, p 66.

40. T. Randolph Beard, George Ford and Lawrence Spiwak, "The Pricing of Pole Attachments: Implications and Recommendations," 9 Review of Network Economics (2010), p. 13.

existing pole attachment owners rather than towards new deployment. As the statute calls for, the FCC should consider the effects of that subsidy on the utility customers that will pay it.

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Implementation of Section 224 of the	)	WC Docket No. 07-245
Act;	)	
	)	
A National Broadband Plan for Our	)	GN Docket No. 09-51
Future	)	

To: The Commission

**SUPPLEMENTAL DECLARATION OF  
JONATHAN ORSZAG AND ALLAN SHAMPINE**

Dated: November 2, 2010

## **I. INTRODUCTION**

### **A. Qualifications**

#### ***Jonathan Orszag***

1. I am a Senior Managing Director and member of the Executive Committee of Compass Lexecon, an economic consulting firm. I am a Fellow at the University of Southern California's Center for Communication Law & Policy and a Senior Fellow at the Center for American Progress. I received a M.Sc. from Oxford University, which I attended as a Marshall Scholar. I graduated *summa cum laude* in economics from Princeton University. Previously, I served as the Assistant to the U.S. Secretary of Commerce and Director of the Office of Policy and Strategic Planning and as an Economic Policy Advisor on President Clinton's National Economic Council. For my work at the White House, I was presented the Corporation for Enterprise Development's 1999 leadership award for "forging innovative public policies to expand economic opportunity in America." I have provided testimony to administrative agencies, the U.S. Congress, U.S. courts, the European Court of First Instance, and other domestic and foreign regulatory bodies on a range of issues, including competition policy, industry structure, and fiscal policy. I have analyzed and provided economic testimony on a wide variety of telecommunications issues both as part of the government and in the private sector.

#### ***Allan Shampine***

2. I am a Vice-President of Compass Lexecon. I received a B.S. in Economics and Systems Analysis from Southern Methodist University, *summa cum laude*, and an M.A. and Ph.D. from the University of Chicago. I have been with Compass Lexecon since 1996. I

specialize in applied microeconomic analysis and the economics of telecommunications and payment systems. I am editor of the book Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies. I have published a variety of articles on telecommunications and network industries in professional economics and legal journals, have provided economic testimony for the Federal Communications Commission (“FCC”), state commissions and the European Commission, and have spoken on telecommunications and network industries in a variety of forums.

## **B. Overview**

3. We have been asked by counsel for the Edison Electric Institute to discuss the economic implications of the FCC’s proposed pole attachment rules. We previously submitted a declaration in this proceeding on October 4, 2010 (“Declaration”). In that declaration, we noted that the FCC’s focus on “low” rates, rather than “uniform” rates, appears to be misplaced. The Act already provides for uniform rates for competitors, and the FCC’s proposal may actually make rates less uniform. Furthermore, the reductions contemplated by the FCC will likely not have any significant effect on broadband deployment because they will mostly affect areas and providers that already have broadband service. However, the FCC’s proposal will likely result in a significant subsidy being paid by utility customers, with that subsidy largely going to existing pole attachment owners rather than towards new deployment.

4. In this declaration, we discuss in more detail the likely effects of the FCC’s proposal on infrastructure investment incentives. As we noted in our previous declaration, we understand that the framework for the analysis is set forth in Section 224 of the Communications Act. (Appendix 1 of our original Declaration includes the text of that section.) Since the general



structure of the rates is specified by statute, the appropriate economic analysis is to determine how to implement those statutory rates in a manner which maximizes both static and dynamic efficiencies. The initial step, however, is to ensure that any proposed methodology is consistent with the statute itself. Utilities have submitted a variety of evidence on the legislative history of the statute as well as detailed discussions of the terms of the statute to help frame the debate.<sup>1</sup>

5. The FCC’s approach, along with those of other commenters, has largely focused on static efficiency, assuming, without analysis or evidence, that dynamic considerations are irrelevant. But the statute discusses dynamic aspects of the pole plant, recognizing that utilities “modify or alter” the plant over time, and the statute’s requirement to “apportion the cost” of the pole allows rates to be set in a way that reflects dynamic effects (i.e., changes in the cost of the pole to the utility can affect the utility’s incentives for deploying, modifying or altering its pole plant). In this Supplemental Declaration, we explain that the FCC’s current proposal does not adequately address dynamic efficiency (i.e., incentives for future infrastructure investment). Furthermore, the FCC justifies its rate reduction proposal by focusing on a “cost causation” approach to rates and by suggesting that pole attachment considerations do not affect utility pole deployment decisions or utility capital costs.<sup>2</sup> Regardless of the merits of such an approach in other contexts, a limited focus only on “cost causation” is, in this case, inconsistent with the

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1. See, for example, Comments of the Alliance for Fair Pole Attachment Rules, August 16, 2010, Section III; Comments of the American Public Power Association, August 16, 2010, Section II; Comments of the Florida Investor-Owned Electric Utilities: Florida Power & Light Co., Tampa Electric Co., Progress Energy Florida, Inc., Gulf Power Co., Florida Public Utilities Co., August 16, 2010, Section IV; Comments of the National Rural Electric Cooperative Association, August 16, 2010, pp. 31-32; Oncor Electric Delivery Company LLC’s Initial Comments, August 16, 2010, Section XII.
  2. FCC, Order and Further Notice of Proposed Rulemaking in the Matter of Implementation of Section 224 of the Act, A National Broadband Plan for our Future, FCC 10-84, May 20, 2010 (“May 2010 FNPRM”), ¶¶ 136-137.

provisions of the Act and with economic principles for maximizing social welfare, with the FCC failing to address the effects of its proposal on utility customers or the owners of other broadband infrastructure.

## **II. THE FCC’S PROPOSAL DOES NOT ADEQUATELY ADDRESS INCENTIVES FOR FUTURE INFRASTRUCTURE INVESTMENT**

6. The FCC proposes reducing rates for all non-ILEC telecommunications pole attachments.<sup>3</sup> Mr. Pecaro and Ms. Kravtin, commenting on behalf of cable companies, propose greater reductions than contemplated by the FCC, and Dr. Pelcovits, on behalf of the NCTA, proposes that pole attachment rental rates be eliminated.<sup>4</sup> More specifically, Mr. Pecaro, Ms. Kravtin and Dr. Pelcovits have proposed setting pole attachment rates at “marginal cost,” although they disagree as to precisely what is marginal cost.<sup>5</sup> The FCC has expressed skepticism

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3. May 2010 FNPRM, ¶ 141.

4. Declaration of Timothy S. Pecaro, in the Matter of Implementation of Section 224 of the Act, August 16, 2010 (“Pecaro Declaration”), ¶ 6 (“This payment of marginal costs through make-ready and a recurring fee (reflecting the attacher’s proportional share of fully allocated costs) allows utilities a recovery that is far in excess of the just compensation appropriate for these economic arrangements.”). Report of Patricia D. Kravtin, in the Matter of Implementation of Section 224 of the Act, August 16, 2010 (“Kravtin Declaration”), ¶ 12 (“The marginal cost proxy presented here is a refinement of the Commission’s ‘no capital cost’ telecom formula. This marginal cost proxy applies the underlying economic or analytical theory consistently to all components and inputs of the rate formula, whereas the Commission’s proposed formula limits revisions to the capital cost components of the carrying charge factor.”). Declaration of Dr. Michael D. Pelcovits, in the Matter of Implementation of Section 224 of the Act; Amendment of the Commission’s Rules and Policies Governing Pole Attachments, March 7, 2008 (“Pelcovits Declaration”), ¶¶ 6-7 (“The starting point for my analysis ... is to compare current rates to long run marginal cost. The reason is that prices in excess of marginal cost will be inefficient. ... If space is available, and there are no competing uses for the space, marginal cost is zero. When space can be made available through rearrangement or expansion of a pole’s height, the marginal cost is the cost of these measures taken to make the space available.”).

5. Pecaro Declaration, ¶ 5 (“Second, in addition to covering a utility’s marginal costs through make-ready payments, the cable attacher is required to pay a recurring fee that assures the utility a rate of return plus a recovery of the capital costs of depreciating the pole and the expenses of maintaining, administering, and paying taxes on the pole in proportion to the space used by the cable attachment. To the extent that the cable rate provides utilities with more than their marginal costs associated with an attachment, the attacher is actually defraying costs that utilities and their customers would otherwise bear themselves.”). Kravtin Declaration, ¶¶ 12, 58 (“The lower bound telecom rate analysis presented in this report is based on a direct

that the statute allows it to interpret “costs” as “marginal costs,” but appears to generally favor defining “costs” in such a way that the portion of the “costs” allocated to attachers is roughly equal to “incremental cost” for the pole owners.<sup>6</sup> Various utilities have filed evidence in this proceeding that such an interpretation is inconsistent with the legislative history and text of the statute.<sup>7</sup> However, even if one assumes that the statute may be interpreted in such a fashion, these approaches all take a short-term view that does not address adequately the effects of their proposals on dynamic efficiency – i.e., incentives for future investment.

7. All of these approaches measure “marginal cost” assuming that poles with excess space available for third-party attachments have been and will be deployed regardless of what attachment requirements and rates are in place.<sup>8</sup> The FCC is very specific in this claim, arguing that “[i]t is likely that most, if not all, of the past investment in an existing pole would have been

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(...continued)

proxy for the economically efficient marginal cost of pole attachment – the cost standard most conducive to achieving the goals set forth in the NBP. ... [T]he true marginal or incremental cost of pole attachment is most accurately estimated using the relative-use allocation method embodied in the section 224(d) cable rate...”). Pelcovits Declaration, ¶ 10 (“Since none of these joint and common costs are marginal to the pole attachment, these recurring rates are entirely in excess of marginal cost. Under these circumstances, payment of these recurring rates make the pole owner better off than before, because prior to the licensee attaching to the pole, the pole owner had to recover the entire costs of the pole from its own retail customers.”).

6. May 2010 FNPRM, ¶¶ 126, 133.

7. See, for example, Comments of the Alliance for Fair Pole Attachment Rules, August 16, 2010, Section III; Comments of the American Public Power Association, August 16, 2010, Section II; Comments of the Florida Investor-Owned Electric Utilities: Florida Power & Light Co., Tampa Electric Co., Progress Energy Florida, Inc., Gulf Power Co., Florida Public Utilities Co., August 16, 2010, Section IV; Comments of the National Rural Electric Cooperative Association, August 16, 2010, pp. 31-32; Oncor Electric Delivery Company LLC’s Initial Comments, August 16, 2010, Section XII.

8. The September 2010 paper by Beard et al. makes a similar assumption, although the authors do note that joint use agreements are not regulated and that as a result changes to the regulated rates “may fail to resolve the efficiency problem of non-uniform prices for broadband firms.” T. Randolph Beard, George Ford and Lawrence Spiwak, “The Pricing of Pole Attachments: Implications and Recommendations,” 9 Review of Network Economics (2010), p. 16.

incurred regardless of the demand for attachments other than the owner's attachments.”<sup>9</sup> None of the parties have discussed in any detail why such an assumption is appropriate, while various utilities have denied the appropriateness of the assumption.<sup>10</sup> Presumably the assumption is largely based on “must serve” regulations imposed by state public service commissions. However, such regulations do not guarantee the availability of space for attachments, only the presence of a pole sufficient to provide electric utility service. Indeed, the FCC itself has noted that “[i]t thus seems more likely that utilities would install poles based on an assessment of their own needs, and, to the extent that future attachments could not be accommodated on such poles, leave it to the new attacher to pay the cost of the new pole, to the extent that one is installed.”<sup>11</sup> In fact, we understand that it is very rare for competitive local exchange companies (“CLECs”) or cable companies to pay for new poles to be installed. The vast majority of third-party attachments are made to poles where space was already available.

8. The question then is why those poles had space available if utilities are installing poles solely based on their own needs. Generally, such availability appears to be due to “joint use” agreements in which ILECs and electric utilities have shared the costs of installing pole plant which can accommodate both of their needs. Historically, utilities and ILECs observed that

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9. May 2010 FNPRM, ¶ 135.

10. See, for example, Comments of the American Public Power Association, August 16, 2010, Section II.B.2. – The Commission’s assumption that pole owners install poles only for their own purposes is incorrect as to members of APPA, and p. 15 (“Members of APPA also uniformly confirm that, in making their purchasing decisions for new poles, their specifications include poles of a larger size and class than they would otherwise require in accommodating their own needs. Rather, in every case, they consider the anticipated and potential uses of the poles by multiple third-party communications providers. ... Indeed, some of APPA’s members order their poles with pre-drilled bolt holes in the communications space in order to accommodate third-party communications attachments.”).

11. May 2010 FNPRM, note 365.

they were both installing pole plant and, rather than duplicate one another's plant, signed contracts for "joint use" of each firm's poles. These contracts provide for payments between the firms based on the relative number of poles owned and maintained by each firm. Today, many ILECs appear to have made business decisions that it is more efficient for them to rely upon utilities to install and maintain poles than for the ILECs to do so. We understand that this has resulted in the majority of pole plant being owned by utilities as ILECs pay the utilities to install and maintain poles with sufficient space for ILEC attachments rather than ILECs installing poles of their own.

9. Joint use contracts typically require that poles be installed of sufficient height to accommodate both parties. In addition, joint use contracts typically require that if the other party later wishes to attach, and the pole lacks sufficient room, then the owner must install a new pole primarily at the owner's expense. Utilities therefore have an incentive to install poles with sufficient space to accommodate the ILECs' current and expected attachment needs. Pole heights are standardized in five foot increments such that installing a pole with adequate space for ILEC use may leave space available for third-party attachments. In addition, we understand that poles with extra space are often installed by utilities in anticipation that space will be required for third-party attachers in order to avoid the operational disruptions and expense associated with replacing a pole. Thus, the FCC's assumption that space for attachments would have been present regardless of demand from other firms is incorrect. Space for attachments is available today because of demand from other firms.

10. Joint use agreements and operational conveniences appear, therefore, to be largely responsible for the availability of space for third-party attachments. Such a conclusion suggests

that the FCC's assumption that future investment in poles will continue to make such space available may be misplaced. It is axiomatic in economics that incentives matter for investment. Indeed, such concerns form the standard basis for intellectual property protections. If the government were to take a patented product and give it away at cost, consumers would benefit in the short run because they could get the product for less money. In the long run, however, there would be fewer inventions because the rewards for inventing would be lower.<sup>12</sup> Dr. Pelcovits notes the importance of such financial incentives to investment in his declaration, but applies it only to broadband providers and not utilities.<sup>13</sup> In fact, the importance of financial incentives to utility investment has been well documented in the academic literature. Studies have repeatedly found that opportunistic regulation – i.e., reducing or eliminating compensation mid-stream – results in underinvestment.<sup>14</sup> Similarly, reducing compensation for this input into broadband

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12. See, for example, Dennis Carlton and Jeffrey Perloff, Modern Industrial Organization (4<sup>th</sup> edition, Pearson Addison-Wesley, 2005), p. 531 (“Why would anyone be willing to incur the entire expense of developing new information, processes, or products if people could benefit from them for free?”).
  13. Pelcovits Declaration, ¶ 26 (“Prior to incurring a fixed cost, a firm will consider whether the cost can be recovered from the increased marginal profit earned as a result of the activity supported by that fixed cost expenditure. If the margin earned is insufficient, the firm will not expend the fixed cost, but will exit or cut-back its activities in the line of business that relies on the fixed cost item.”).
  14. Paul Joskow, “Regulatory failure, regulatory reform, and structural change in the electrical power industry,” *Brookings Papers: Microeconomics* 1989, 125-208, at 161 (“Utility behavior has naturally responded to the incentives created by the experience of the post-1973 period. Utilities learned that if they built large new generating plants, they might very well not recover their investment... As a result, the expected return on investments in new generating plants subject to regulation is perceived to be below the cost of capital. Few utilities appear willing to build large base-load facilities, even in areas where additional capacity is needed.”). Thomas Lyon and John Mayo, “Regulatory opportunism and investment behavior: evidence from the U.S. electric utility industry,” 36 *RAND Journal of Economics* 3 (2005): 628-644, at 629 (“Our results indicate that a utility that suffers a regulatory cost disallowance does subsequently invest less.”). Yossef Spiegel, “The choice of technology and capital structure under rate regulation,” 15 *International Journal of Industrial Organization* 1996, 191-216 at 193 (“When investment involves sunk cost, regulatory opportunism has been shown in the literature to induce firms to underinvest, e.g., Spulber (1989, ch. 20) and Besanko and Spulber (1992). This paper shows that besides leading to underinvestment, regulatory opportunism may also distort the firm’s choice of technology.”). Thomas Lyon, “Regulatory hindsight review and innovation by electric utilities,” 7 *Journal of Regulatory Economics* 1995, 233-254, at 234, (“The key result is that the threat of hindsight review may indeed cause underinvestment or a total

networks may well harm broadband deployment in the long run by discouraging investment in this and other network inputs.<sup>15</sup>

11. As noted above, the various proposals for reducing or eliminating pole attachment rental rates assume that a pole is already present and has sufficient room for third-party attachments. But the focus of this proceeding is on future investment in infrastructure, which can be affected by how firms are compensated for their past investments in infrastructure. Pole plant is neither ubiquitous nor static. New poles are installed and old poles are replaced. Today, those poles have room for attachments, in large part, because of the joint use agreements. Third parties are now arguing that since ILECs and utilities entered into joint use agreements, leading to taller poles which could accommodate both the ILEC and the utility, the third parties should be allowed to attach as well at no charge and provide services competing with the ILECs. This is not the level playing field that the FCC advocates. Furthermore, joint use contracts can be renegotiated, and firms can typically opt out of them with one's year notice, "capping" the existing investment. Reducing or eliminating pole attachment rates will provide incentives for joint use agreements to be renegotiated or eliminated. Future contracts might, for example, call

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(...continued)

refusal to invest in new capacity; in addition, it may cause a utility to switch from an innovative technology to a more costly conventional one.") and 237 ("Recent theoretical analyses by Gilbert and Newberry (1988), Lyon (1991), and Teisberg (1993) all support the idea that 'hindsight review' may reduce investment."). Kai-Uwe Kuhn, "Technology choice and capital structure under rate regulation: a comment," 20 *International Journal of Industrial Organization* 2002, 269-278, at 269 ("Regulatory opportunism may induce both the choice of inefficiently high fixed cost and inefficiently high marginal cost technologies.").

15. It should also be noted that if utilities were, for example, required by regulation to install poles in particular locations and of particular heights to accommodate third-party attachers, then there would be no question that such regulations were directly impacting both the quantity and type of utility infrastructure to favor such attachers, and the basis for the FCC's proposed methodology would clearly not hold in such a situation.

for poles to be installed with only the minimal room required by the utility, requiring other firms to pay for replacement poles necessary to accommodate their facilities. This would result in inefficient and unnecessary expenses by third parties. Providing appropriate incentives for pole owners to install taller poles to begin with would be more economically efficient.

12. The outcome of this proceeding may influence other broadband input providers as well. The FCC is currently considering the regulation of other inputs into broadband networks, such as copper, coaxial cable, and fiber lines. Firms have collectively spent many billions of dollars on deploying such infrastructure, and are continuing to spend substantial amounts.<sup>16</sup> If the FCC increases the ability of third parties to free ride on other firms' investments in infrastructure, providers of other inputs will reasonably ask whether they are next and whether it is wise for them to continue to invest so heavily in such technologies. A precedent here may thus discourage, on the margin, future investment not just by utilities and ILECs, but by all firms that may be considering deploying access infrastructure.

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16. See Robert Atkinson and Ivy Schultz, "Broadband in America," November 11, 2009, § 1.4 – Expected Capital Outlays, and § 2 – Review of Publicly Announced Broadband Plans.